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AUTHOR Connelly, Kirstin P.; DuBois, Nelson F.; Staley, Richard
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ABSTRACT

While past research has reported moderate effects of learning-to-learn courses on grade-point averages (GPAs), number of hours completed, and attrition rates, little has been reported about how students fare in subsequent semesters. This study, which consisted of a five-phase interview process with 30 randomly selected male and female college students, contrasted high (n=16) and low (n=14) GPA, second-semester students on five outcomes: use of nonstudy time; time management; self-reported changes; adaptation to different studying situations; and studying behaviors as measured by marked texts, notetaking, or self-reported review tactics. The study found that: (1) while all high GPA students had chosen majors, only half of the low GPA students had selected a major; (2) high GPA students reported spending more daytime hours studying; (3) while students in both groups reported having changed study practices during their first semester, most high GPA students ascribed the change to a more demanding workload; low GPA students sought to improve grades; (4) when asked about self-management practices under different studying situations, some differences were observed for managing daydreaming and distractions; (5) scores on test preparation as measured by marked texts and notetaking were low for both groups. (Contains 20 references.) (CH)

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Structured Interview Study of the Long-term Effects of A College Study Skills Course: Traces and Self-Report Measures

By:
Kirstin P. Connelly
Dr. Nelson F. DuBois
Dr. Richard Staley

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Abstract

While past research has reported moderate effects of Learning-to-Learn courses on GPA's, number of hours completed, and attrition rates researchers have almost been virtually silent about what students report they do in subsequent semesters, what they might have changed as a function of taking an LLC, or what they are actually capable of doing. This pilot study, employing an adaptation of Zimmerman & Pons (1986) techniques, contrasted high and low GPA second semester first year students on five outcomes: use of non-study time; time management analyses; self-report changes; adaptation to different general studying situations; and traces of studying behaviors as measured by marked texts, notes, and self-reported review tactics. All high GPA students tended to use their daytime hours more frequently. Almost all high and low GPA students reported daydreaming and were easily distracted when they studied. Both groups reported being bothered by these behaviors, but only the high GPA students reported successfully overcoming these bothersome characteristics. When given a simulated learning episode to read a passage and study it, no differences were obtained between marking or note-taking strategies. Neither group was particularly effective with the strategies taught in the course. Interestingly though, as contrasted with low GPA students, the high GPA group stated they employ strategies to make connections when they review for exams.

Structured Interview Study of the Long-term Effects of
A College Study Skills Course:
Traces and Self-Report Measures

With more students attending college who are ill prepared strategically, metacognitively, and motivationally to accommodate to college demands, colleges have felt the need to help students adapt. Unfortunately, while one of the most popular methods colleges employ is to offer Learning to Learn Courses (LLC), researchers have been virtually silent about the long-term strategic effects of LLC's. The most extensive LLC evaluations have been conducted by Biggs & Rihn, 1984; Dansereau, Collins, McDonald, Holley, Garlan, Diekhoff & Evans, 1979; Dansereau, 1985; McKeachie, Pintrich & Lin, 1985; Pintrich, McKeachie & Lin, 1987; and Weinstein, 1988; 1994. These researchers have reported moderate effects on such variables as GPA's, # credits obtained, and attrition rates. Recently, in a symposium presented at the 1997 annual meeting of AERA, Haught, 1997; Nist & Hynd, 1997; Shapiro, 1997; and Weinstein, 1997 all reported the same types of effects. Although all of the above researchers found moderate LLC effects, rarely have researchers measured the long-term durable process outcomes or investigated the traces of studying. Second, researchers have not investigated which students change and what they change. Third, to the current researchers' knowledge, almost all LLC research has been conducted with students who self-selected the LLC or who were assigned to the course because they were in academic difficulty. The current study attempts to address some of these problems.

Long-term durable effects:

Because of the design of past studies, researchers have failed to investigate long-term durable process outcomes and associated traces of studying. Thus, we really do not know what LLC students actually do differently in the semesters following enrollment in their LLC's. For example, in the semester after students had enrolled in a LLC, Ramsden, Beswick & Bowden (1986) found that college students rejected the strategies presented in the LLC course, increased their rehearsal surface strategies, and increased their GPA's. A typical study would have concluded the LLC course was successful. By one standard, it was. The students improved their GPA's. However, upon more careful analysis, the improvement was due to an increase in the use of rehearsal strategies--precisely what the course was designed to eliminate. Studies are needed to determine how students adapt to their college environments, how they employ their time, and whether they spontaneously employ appropriate LLC strategies in simulated or realistic study situations. Additionally, if they do not spontaneously employ LLC strategies, why do they fail to employ the strategies? Do students recognize the salient conditional knowledge associated with the strategy? Do they value the strategy? Given a "cost-benefit analysis," do they believe the strategy is worth the effort? If requested to do so, could the students successfully employ the strategy? To what extent are students able to orchestrate a repertoire of strategies and tactics to achieve desirable outcomes? If students fail to use LLC strategies and still achieve outstanding GPA's, exactly what did these students do to achieve these results? Researchers have been relatively silent on these issues. One of the purposes of this study is to investigate these variables by

interviewing successful and unsuccessful students in the semester after they completed the LLC.

Factors associated with change:

Teaching learning strategies to college students is very different than teaching strategies to young naïve students. College students have received feedback, albeit distorted, that their strategies are relatively successful. Essentially, they have a history of "success." In contrast, young children have no such history. Thus, one of the instructional problems facing LLC instructors is to design instructional interventions that will facilitate strategic and attitudinal change. While researchers have begun to investigate factors that contribute to self-change in people (Baumeister, 1994; Heatheron & Nicholls, 1994; and Prochaska, DiClemente & Norcross, 1992); none have systematically investigated specific reasons for students changing their beliefs and attitudes about studying. For example, what learning strategies do students tend to change, and what influenced the students to change? Why do some students change their studying practices and other students fail to do so? If they tried to adapt the strategies and failed, why did they fail? Within the past year, four papers have emerged calling for research on "process" and "change" dimensions of self-regulated learning (Hadwin & Winne, 1996; Hattie, Biggs & Purdie, 1996; Simpson, Hynd, Nist, & Burrell, 1997; and Winne, in press). For example, Winne, Hadwin, Stockley, & Nesbit (1997) have suggested that not only is research needed to investigate the long-term effects of LLC's and other interventions, research is also needed to contrast traces of studying versus self-reports. A second purpose of the study was to investigate the degree to which successful and unsuccessful students reported changing their attitudes and practices following their enrollment in an LLC.

Random Assignment:

To the current researchers' knowledge, almost all LLC research has been conducted with students who self-selected the LLC course or who were assigned to the course because they were in academic difficulty. Thus, when positive effects are achieved for an LLC course, it is difficult to determine if the effects of the LLC are closely related to the types of students likely to enroll in an LLC. Since the majority of students at SUNY Oneonta are randomly assigned to the LLC, the design of the study affords a clearer picture concerning the precise effects of the LLC as contrasted with typical LLC studies. Therefore, in this study we investigated to what extent students employed effective time management strategies, and reported changing their attitudes and studying practices. The study also investigated, in a simulated learning episode situation, to what extent did the students actually employ learning strategies taught in the LLC and to what extent were the students capable of employing the strategies. To investigate these outcomes, we developed a five-phase interview process and interviewed 2nd semester first-year students who were enrolled in the LLC course the previous semester. Since funds and resources were limited, we reasoned that if differential effects were to be found between students who took the LLC, the greatest differences would mostly likely be observed by contrasting high and low GPA students. Thus, we randomly selected

LLC students from the top quartile contrasted with LLC students who achieved GPA's in the lowest GPA quartile to interview for this study.

Methods

Subjects:

30 students (3 males and 11 females with low GPA (<1.75) and (4 males and 12 females with high GPA's (>2.75) were randomly selected for the study. To obtain the 30 students for the interview, we had to randomly choose 58 students. Of the 58 initial students, 11 had withdrawn from college and 4 had been dismissed. We then contacted 43 students by telephone. Eventually, 30 agreed to be interviewed (16 in the highest quartile and 14 in the lowest quartile). It is important to note that all students had initially been randomly assigned to the LLC. The highest quartile group had significantly higher high school GPA's (85.1 vs. 80.4) ($P<.03$). The difference between the combined SAT scores (953, for high students vs. 917 for low students) were not significant.

Interview procedures:

The interview consisted of five phases. In phase 1, students filled out a one-page demographic profile sheet. The profile sheet was designed to measure the degree to which the participants were involved in campus activities, work, volunteerism, or off-campus activities. In phase 2, students filled in a self-report time management matrix. The sheet listed hours from 6:00 A.M. to 1:00 P.M. The purpose of this sheet was to determine how students distributed their studying hours and how central studying was to their college experience. In phase 3, students were asked opened-ended questions about self-change. The purpose of this phase was to determine if participants would spontaneously report having changed their studying strategies since they attended college and which changes were perceived as significant for the students. Many other questions related to change were also investigated. In phase 4, students were administered a structured interview questionnaire [adapted from Zimmerman & Pons (1988)], using a 5-point Likert-scale to guide the questions. After students answered each question, the examiners encouraged the participant to elaborate on their answers. Lastly, traces of reading, note taking, and review strategies was investigated by giving the students a 506 word moderately information dense passage on weather patterns. We asked the participants to use strategies they would typically employ when preparing for a test. The purpose of simulating a studying episode was to assess whether the participants would spontaneously employ the strategies taught in the LLC. If students failed to employ the strategies suggested in the course, we asked the students to demonstrate the LLC strategies. Thus, this technique helped us assess the potential durable effects of the LLC. Do students spontaneously employ the LLC strategies? If not, are they able to employ the strategies? If they choose not to employ the strategies, and they are capable, why do they fail to employ the strategies?

All students in the study were provided a consent form. In the form, the students were asked to give us permission to evaluate their answers to the questionnaires. We

described the procedure in writing to the student. Subjects were paid $13.75 to participate in the hour-long interview.

Results

Profile sheets:

Analysis of the profile sheets indicates that all students in the highest quartile had chosen majors while only half of the lowest quartile students had selected majors. No differences were obtained between the low students and high students' choices of non-studying activities. Students from both groups rarely reported participating in any campus activities or other significant activities.

Time Management Analysis:

The only difference obtained between the two groups is that the highest quartile students reported spending more time studying during the day (12.8 hours vs. 9.8 hours). The highest quartile students reported spending 23 hours a week studying while the lowest quartile students reported studying 20 hours a week. Thus, higher performance students tended to employ the time-management suggestions from the course more than the lower performing students.

Self-Reported Changes:

Many students in both groups reported they changed their studying practices significantly during their first semester in college. The highest quartile students reported changing how they studied because the workload is demanding (58%). In contrast, the lowest quartile students reported changing their effort because they desired to improve their grades (72%). The finding for students in the lowest quartile is very likely due to their being on academic probation. No significant differences were obtained on the self-report measures for readings, marking, note taking, and review between the high and low GPA group.

Studying Situations:

Students were then asked how they would employ self-management/self-motivational practices in different studying situations. The studying situations included daydreaming, procrastination, changes in motivation throughout the semester, and managing distractions. No differences were obtained between the high and low performing students for procrastination or changes in motivation. Differences approached significance for managing daydreaming ($p<.07$) and were significant for managing distractions ($p<.03$). Since both factors appeared to be measuring a general self-control dimension of motivation, we combined the two scores. For the combined score, significant differences were obtained ($p<.005$).

Protocol Analysis:

In the last phase of the interview we gave students a paragraph to read, mark, record notes, and indicate how they would prepare for a test. We evaluated their notes on 12 attributes. The highest quartile group spontaneously recorded matrix notes more effectively (3.19) than the lowest quartile group (2.36). In contrast, for the qualitative analysis of marking, the lowest quartile group marked their text (1.07) more effectively than the highest quartile group (0.68). While both groups of students were able to use the matrix system after we had asked them to put their notes in matrix form, using criterion analysis, their performance was quite inadequate. The results of these analyses indicate that the students have not learned the marking and note taking system very effectively. Scores were consistently low for most students in both groups.

Results from the students' reading, marking, and note taking form a weather passage were not statistically different in most areas. There were only two key areas that we found to be interesting and worthy to note. When the students answered questions about how they read the passage we gave them, both groups did not read for relationships. We found the low GPA students did not state they make connections during their preparation for an exam while the high GPA students stated they do. This result corresponds to other findings we have recently analyzed in another study. The results from this section conclude that the course has a weak effect for students to learn information processing.

Discussion

Collectively, the results of this study, along with other recent studies we have conducted, suggest that LLC had a moderate effect on future academic performance and strategy usage. Essentially, this study departs five ways from typical LLC research. First, we evaluated extreme groups to identify differences between "successful" and "unsuccessful" students. This design yielded some important differences between the groups. Second, we investigated the long-term durable strategic effects of an LLC. Virtually, no research has been conducted in this fertile area. Our findings indicate that the course had a moderate effect on some process measures. Third, we investigated self-report measures about the students' perceptions of their self-change. Our findings indicate that both the high and low GPA students reported changing their strategies. Most of the reported changes appeared to be increases in the amount of effort rather than a change in the quality of effort. Fourth, we investigated how students reported managing themselves. Our findings suggest that students in the high group reported controlling their attention and focus better than what the students in the low group reported. While this is a major dimension in the LLC, we were unable to determine whether these differences are attributable to the course. Fifth, we investigated how students reported using their time studying and to what extent the student became involved in the college community. We found slight tendency for the higher students to use their daytime hours for studying (a point emphasized in the LLC). We also found that neither group of students participated in campus-activities.

We view this research as a pilot study. Obviously, the design is limited. Some limitations include no pre-measures on reported self-change strategies; thus the baseline

data is lacking. Second, only 30 of potentially 43 students were interviewed. Third, we did not employ a control group. Due to the labor-intensive nature of the study, and a limited budget, a control group was not possible. Plans are under way to apply for a grant to evaluate successful and unsuccessful students who did not enroll in the LLC. Obviously, without a control group we can not be sure the reported changes are due to the LLC intervention. We can be sure, however, that while our students were capable of employing some of the reading, note taking, and review strategies in the protocol situation, they did not perform very well on these measures. This is an important finding and will be used to redesign these components of the LLC. Unfortunately, we do not know whether the students failed to learn the strategies initially (we believe this to be the case) or whether they forgot the strategies. To better understand how to help the students attain competency we will systematically gather data on studying practices during various phases of the study skills course. We will also expand this study to compare successful and unsuccessful students who did not take the study skills course. We hypothesize that non-LLC students are more likely to employ rehearsal/memorization strategies than LLC students are. To the authors' knowledge, this research has not been conducted. Finally, we believe that the importance of this study lies in the methodology in the study rather than the findings.

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